IV. REMARKS

In the Office Action, objection was made to claims 7, 13, 20 and 21 for reasons set forth in the Action. The objection has been overcome by deleting the parentheses enclosing the word "unknown". Also, in the specification, on page 3 at line 27, a misspelled word has been corrected, as requested by the examiner.

Claims 1-4, 7-10, 13-16 and 19-23 were rejected under 35 U.S.C. 102 as being anticipated by Bergstrom (US 5,794,185) for reasons set forth in the Action. Claims 5-6, 11-12 and 17-18 were rejected under 35 U.S.C. 103 as being unpatentable over Bergstrom in view of Steimle (US 6,377,941), and claims 22-23 were rejected under 35 U.S.C. 103 over Bergstrom in view of Agarwal (US 5,729,691) for reasons set forth in the Action.

Independent claims 1, 7, 13 and 19-23 have been amended to distinguish the claimed subject matter from the teachings of the cited art, thereby to overcome the rejections of these claims and their respective dependent claims under 35 U.S.C. 102 and 103. Amendments have been made also to claims 2-4, 9-10 and 14-15 for improved idiomatic English. The claims are believed to be allowable in view of the following argument.

With respect to the practice of the present invention, the present specification teaches (page 8 at lines 10-14) that each input pattern is first normalized in a normalizer, before presentation to a classifier. Further (at lines 17-21), it is taught that the input patterns have an essential characteristic that is left invariant by the normalizer. The specification teaches (page 12 at lines 4-9) that an essential characteristic common to a plurality of input patterns is referred to as

"shape", and that in the practice of the present invention, the differences between the input patterns are measured. Further (page 13 at lines 9-18), it is taught that the normalization, as performed in the normalizer, is attained by computing the respective offset for each of two signals. It is also apparent from the teaching of the present specification that the mode of normalization, namely, the manner in which the normalization is accomplished, is an important aspect of the present invention.

A different form of normalization is taught in the cited art of Bergstrom.

In the rejection of claim 1 (bottom of Page 2 of the Office Action) and other ones of the independent claims, the examiner notes that Bergstrom teaches use of a normalizer in Fig. 1 (element 270) and in column 14 (lines 59-67). In column 15, beginning at line 10, Bergstrom describes his normalization process with reference to Fig. 20. The method is said to begin with a load quantized scaler means step 271, which reads a quantized scaler means vector generated in an encode scaler statistic means 220. This is followed by a load quantized scaler standard deviation step 273 that reads the quantized scaler standard deviation factor generated in the means 220. Further, at line 34, a pitch normalize step 276 upsamples or downsamples the epoch.

The foregoing teaching of Bergstrom is amplified in column 11, with the aid of Fig. 14, wherein lines 30-61 describe operation of the encode scaler statistic means 220 wherein there is a determination of a number of epochs in a current frame under analysis followed by use of a codebook (lines 48 and 58).

From the foregoing observations of the Bergstrom teaching, it is apparent that the operation of the Bergstrom system is different from the operation of the present invention wherein, as described above, the normalization is attained by computing the respective offset for each of two signals.

A further distinction of the Bergstrom teaching from the present invention is also noted. In Bergstrom, the classifier is based on a Multi-Layer Perceptron (MLP) for which a description is provided in Bergstrom in Fig. 3 and in col. 5 at lines 8-15, which passage has been cited by the examiner in the Office Action on page 3, first line. In the operation of the Bergstrom classifier, the learning phase is completely different from that disclosed in present claim 1 wherein there is a storing of patterns as prototypes. The MLP learning phase is accomplished by computing synaptic weights, which is a much more complex process than storing a pattern in a memory. Since internal representation of the teaching performed on MLP differs from the operation of the classifier of the present invention, normalization in the Bergstrom system is also different from normalization in the present invention.

In order to emphasize the foregoing distinctions between the teachings of Bergstrom and the practice of the present invention, claim 1 has been amended to recite that, in the applying step, the input pattern is applied to a normalizer that computes a main factor which measures "an offset difference" between the main parameter value of the input pattern and the reference value. The use of the normalizer to compute a main factor which measures "an offset difference" between a main parameter value of the input pattern and a reference value is believed to distinguish the present invention from the teachings

of Bergstrom. Corresponding amendment is made to the other independent claims 7, 13 and 19-23. This is believed to overcome the rejections of these claims under 35 U.S.C. 102 and the rejections of their dependent claims under 35 U.S.C. 103 so as to obtain allowable subject matter in the claims.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 50-0510.

Respectfully submitted,

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